

REMARKS

Applicants have amended the specification to remove some obvious typographical errors of minor character. No new matter has been added. Entry of the amendment, and reconsideration of the application as amended is respectfully requested.

Rejection Under 35 U.S.C. § 102(b)

The Examiner rejects claims 1-8 under 35 U.S.C. §102(b) as allegedly being anticipated by Mussell *et al.* U.S. Patent No. 5,882,810 ("Mussell"). Applicants respectfully traverse this rejection.

The Examiner asserts Mussell discloses fuel cells that contain a catalyst, an ionomer as an organic solvent that can be dipropylene glycol, propylene glycol methyl ether, which inherently has a flash point higher than 100⁰C and water. The Examiner asserts that solvents are disclosed in this reference in an amount of at least 10-90%, and that ethanol and water are employed as a solvent in a volume percent of 50:50 (col. 6, lines 50-55, Office Action, page 3). The Examiner concludes that Mussell anticipates the present claims.

Applicants respectfully disagree with the Examiner's position. For a reference to anticipate the claims, all claim elements must be disclosed, taught or suggested by the prior art. Although, Mussel discloses catalyst inks used in membrane electrode assemblies, Mussell is silent on the addition of a linear dialcohol to the ink. Mussell states, col. 4, lines 56-66:

Examples of suitable organic compounds for use in the preparation of the catalyst ink include polar solvents such as propylene glycol methyl ether, dipropylene glycol methyl ether, propylene glycol n-butyl ether, dipropylene glycol n-butyl ether, propylene glycol n-propyl ether, dipropylene glycol n-propyl ether, dipropylene glycol dimethyl ether, diethyl succinate, dimethyl succinate, glycerin, C₁₋₆ alcohols, ethylene carbonate, propylene carbonate, butylene carbonate, ethylene carbamate, propylene carbamate, butylene carbamate, acetone, acetonitrile, difluorobenzene, sulfolane, or mixtures thereof.

Mussell is listing ether compounds like propylene glycol methyl ether and dipropylene glycol methyl ether, propylene glycol n-butyl ether and the like. For example, propylene glycol methyl ether has the formula: $\text{H}_3\text{CCHOHCH}_2\text{OCH}_3$, while an example of a linear dialcohol (two OH groups) as presently claimed is propylene glycol (1,2-propanediol) $\text{CH}_3\text{CHOHCH}_2\text{OH}$, which is not an ether. With regard to Mussell's C₁ to C₆ alcohols, they have the general formula: C_(n) H(2_n+1) -OH; and are not linear dialcohols. Accordingly, Mussell fails to disclose, teach or suggest linear dialcohols as presently claimed.

Moreover, the Examiner cites to col. 6, lines 50-55 of Mussell for showing an organic solvent used in the catalyst ink with the volume percent of 50:50 ethanol/water solution, but this is not the organic solvent presently claimed. The present claims include an organic solvent comprising at least one linear dialcohol (has two OH groups), ethanol has the formula: CH₃ -CH₂ - OH and is not a dialcohol, because it has only one OH group. Accordingly, Mussell does not disclose, teach or suggest at least this claim element.

Further, the presently claimed linear dialcohols have, among other things, unique properties as solvents for ionomers, such as for example, water solubility, flash point, reduced toxicity, and/or inflammability. See, for example, Applicants' Summary of Invention. Accordingly, the present claims are not anticipated or obvious to one of ordinary skill in the art upon reading Mussell. It is respectfully submitted that Mussel does not anticipate the present claims and Applicants respectfully request this rejection to be withdrawn.

Conclusion

In view of the foregoing amendments, and the remarks set forth above, reconsideration and allowance are respectfully solicited.

Enclosed is the fee for a 3-month extension of time. No additional fee is believed to be due with respect to the filing of this amendment. If any additional fees are due, or an overpayment has been made, please charge, or credit, our Deposit Account No. 11-0171 for such sum.

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If the Examiner has any questions regarding the present application, the Examiner is cordially invited to contact Applicant's attorney at the telephone number provided below.

Respectfully submitted,



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